



MAIL DATE CANCELLED

Form 1449 (Modified)

Information Disclosure
Statement By Applicant

(Use Several Sheets if Necessary)

Atty Docket No.

KLA1P117X1F/P1151/7

Application No.:

10/785,430

Applicant:

Mieher, et al.

Filing Date

February 23, 2004

Group

2877

U.S. Patent Documents

Examiner Initial	No.	Patent No.	Date	Patentee	Class	Sub-class	Filing Date
GS	A	6,350,548 B1	02/26/02	Leidy, et al.	430	22	03/15/00
GS	B	5,712,707	01/27/98	Ausschnitt, et al.	356	401	11/20/95
GS	C	4,757,207	07/12/88	Chappelow, et al.	250	491.1	03/03/87
GS	D	US 2003/0223630A1	12/4/03	Adel, et al.	382	145	02/13/03
GS	E	US2003/0156276A1	08/21/03	Bowes	356	124	02/20/02
	F						
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Foreign Patent or Published Foreign Patent Application

Examiner Initial	No.	Document No.	Publication Date	Country or Patent Office	Class	Sub-class	Translation	
							Yes	No
GS	J	WO02/084213A1	24.10.2002	WIPO	G01B	11/00	X	
GS	K	WO02/65545A2	22.08.2002	WIPO	H01L	21/66	X	
GS	L	WO02/069390A2	06.09.2002	WIPO	H01L	21/66	X	
	M							
	N							

Other Documents

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	O	
	P	
	Q	
Examiner /Gordon Stock Jr/		Date Considered 09/26/2006

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U.S. Patent Documents and Publications

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GS	A	2002/0054290	05/09/02	Vurens, et al.	356	369	10/19/01
↓	B	6,350,548	02/26/02	Leidy, et al.	430	22	03/15/00
	C	5,808,742	09/15/98	Everett, et al.	356	363	05/28/96
	D	5,276,337	01/04/94	Starikov	250	548	10/31/91
	E	2003/0002043	01/02/03	Abdulhalim et al.	356	400	04/10/01
↓	F	6,486,954	11/26/02	Mieher et al.	356	401	09/01/00
	G	2003/0011786	01/16/003	Levy et al.	356	600	09/20/01
	H						
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GS	A1	6,079,256	06/27/00	Bareket	73	105	12/07/98
	A2	5,608,526	03/04/97	Pinwonka-Corle et al.	356	369	01/19/95
	A3	5,596,406	01/21/97	Rosencwaig et al.	356	327	08/15/95
	A4	6,462,818	10/08/02	Bareket	356	401	06/22/00
	A5	5,166,752	11/24/92	Spanier et al.	356	369	01/11/90
	A6	4,999,014	03/12/91	Gold et al.	356	382	05/04/89
	A7	6,590,656	07/08/03	Xu et al.	356	369	09/21/01
	A8	6,611,330	08/26/03	Lee et al.	356	369	02/06/01
	A9	6,023,338	02/08/00	Bareket	356	401	07/12/96
	A10	4,820,055	04/11/89	Muller	356	401	08/25/86
	A11	6,013,355	01/11/00	Chen et al.	428	209	12/30/96
	A12	5,343,292	08/30/94	Brueck et al.	356	363	10/19/90
	A13	6,160,622	12/12/00	Dirksen et al.	356	401	06/18/98
	A14	6,323,560	11/27/01	Narimatsu et al.	257	798	01/27/00
	A15	4,631,416	12/23/86	Trutna, Jr.	250	548	12/19/83
	A16	4,828,392	05/09/89	Nomura et al.	356	401	03/10/86
	A17	5,465,148	11/07/95	Matsumoto et al.	356	349	10/21/93
	A18	4,848,911	07/18/89	Uchida et al.	356	356	06/11/87
	A19	6,197,679	03/06/01	Hattori	438	636	03/23/99
	A20	5,172,190	12/15/92	Kaiser	356	401	01/11/91
	A21	5,923,041	07/13/99	Cresswell et al.	250	491.1	04/25/95
	A22	4,167,337	09/11/79	Jaerisch et al.	356	354	06/13/77
	A23	6,420,791	07/16/02	Huang et al.	257	797	11/23/99
	A24	6,342,735	01/29/02	Colelli et al.	257	797	09/01/99
↓	A25	5,525,840	06/11/96	Tominaga	257	797	11/09/94
	A26	5,909,333	06/01/99	Best et al.	360	51	06/18/97
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Examiner Initial	No.	Patent No.	Date	Patentee	Class	Sub- class	Filing Date
GS	B1	5,912,983	06/15/99	Hiratsuka	382	144	07/25/97
	B2	6,165,656	12/26/00	Tomimatu	430	22	04/20/99
	B3	6,522,406	02/18/03	Rovira et al.	356	369	06/07/01
	B4	5,883,710	07/10/95	Nikoonahad et al.	356	237.2	06/10/95
	B5	6,081,325	06/27/00	Leslie et al.	356	237.2	06/03/97
	B6	4,818,110	04/04/89	Davidson	356	358	05/06/86
	B7	5,112,129	05/12/92	Davidson et al.	356	359	03/02/90
	B8	5,889,593	02/30/99	Bareket	356	445	02/26/97
	B9	6,486,954	11/26/02	Mieher et al.	356	401	09/01/00
	B10	6,633,831	10/14/03	Nikoonahad et al.	702	155	09/20/01
	B11	6,420,971	07/16/02	Leck et al.	340	542	06/22/00
	B12	6,342,735	01/29/02	Colelli et al.	257	797	09/01/99
	B13	5,909,333	06/01/99	Best et al.	360	51	06/18/97
	B14	6,323,560	11/27/01	Narimatsu et al.	257	798	01/27/00
	B15	6,013,355	01/11/00	Chen et al.	428	209	12/30/96
	B16	4,703,434	10/27/87	Brunner	364	488	04/24/84
	B17	5,783,342	07/21/98	Yamashita et al.	430	30	12/27/95
	B18	5,801,390	09/01/98	Shiraishi	250	559.3	02/07/97
	B19	6,421,124	07/16/02	Matsumoto et al.	356	401	12/02/98
	B20	5,182,455	01/26/93	Muraki	250	548	05/11/92
	B21	6,476,920	11/05/02	Scheiner et al.	356	630	06/26/00
	B22	5,189,494	02/23/93	Muraki	356	401	01/08/92
	B23	5,316,984	05/31/94	Leourx	437	250	03/25/93
	B24	5,327,221	07/05/94	Saitoh et al.	356	355	07/29/92
✓	B25	5,666,196	09/09/97	Ishii et al.	356	356	11/17/95
	B26	6,046,094	04/04/00	Jost et al.	438	400	07/29/98
Examiner /Gordon Stock Jr/				Date Considered 09/26/2006			

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U.S. Patent Documents and Publications

Examiner Initial	No.	Patent No.	Date	Patentee	Class	Sub- class	Filing Date
GS	C1	5,182,610	01/26/93	Shibata	356	349	04/19/91
	C2	6,153,886	11/28/00	Hagiwara et al.	250	548	09/28/99
	C3	6,462,818	10/08/02	Bareket	356	401	06/22/00
	C4	5,114,235	05/19/92	Suda et.	356	401	07/17/90
	C5	5,414,514	05/09/95	Smith et al.	356	363	06/01/93
	C6	4,103,998	08/01/78	Nakazawa et al.	356	152	07/19/76
	C7	5,340,992	08/23/94	Matsugu et al.	250	548	11/18/92
	C8	6,077,756	06/20/00	Lin et al.	438	401	04/24/98
	C9	6,128,089	10/03/00	Ausschnitt et al.	356	401	06/28/98
	C10	6,177,330	01/23/01	Yasuda	438	401	03/26/98
	C11	6,255,189	07/03/01	Muller et al.	438	401	10/19/99
	C12	4,200,395	04/29/80	Smith et al.	356	356	05/03/77
	C13	4,332,473	06/01/82	Ono	356	356	11/22/80
	C14	4,750,836	06/14/88	Stein	356	399	09/18/86
	C15	5,596,413	01/21/97	Stanton et al.	356	401	08/17/95
	C16	4,929,083	05/29/90	Brunner	356	400	03/20/89
	C17	2003/0020184	01/30/03	Ballarin	257	797	05/21/02
	C18	2002/0149782	10/17/02	Raymond	356	616	02/28/02
	C19	2002/0072001	06/13/02	Brown et al.	430	30	05/04/01
	C20	2002/0135875	09/26/02	Niu et al.	359	564	02/27/01
↓	C21	2002/0158193	10/31/02	Sezginer et al.	250	237	02/12/02
	C22	2002/0192577	12/19/02	Fay et al.	430	22	06/15/01
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							Yes	No
GS	D1	WO/9956174	04.11.99	WIPO	G03B	27/42	X	
	D2	11-86332	3.30.99	JAPAN	G11B	7/135		X
	D3	JP 60-126881	86.07.06	JAPAN	H01S	3/18		X
	D4	JP 63-248804	10.17.88	JAPAN	C08F	10/00		X
	D5	WO/85/04266	26.09.85	WIPO	G03B	41/00	X	
	D6	WO/95/02200	19.01.95	WIPO	G02B	5/18	X	
	D7	WO03042629	22.05.03	WIPO	G01B	11/00	X	
	D8	WO/03054475	03.07.03	WIPO	G01B	11/06	X	
	D9	WO/0218871	07.03.02	WIPO	G01B	11/27	X	
	D10	WO 02/065545	22.08.02	WIPO	H01L	21/66	X	
	D11	WO/0215238	21.02.02	WIPO	H01L	21/00	X	
	D12	WO 01/97279	20.12.01	WIPO	H01L	21/66	X	
	D13	WO 02/35300	02.05.02	WIPO	G05B	19/00	X	
	D14	WO 02/25723	28.03.02	WIPO	H01L	21/66	X	
	D15	WO 99/45340	10.09.99	WIPO	G01B	11/02	X	
	D16	WO 0250509	27.06.02	WIPO	G01N		X	
	D17	WO 03/001297	03.01.03	WIPO	G03F	G03F	X	
	D18	WO 02/084213	24.10.02	WIPO	G01B	11/00	X	
✓	D19	WO02/25708	28.03.02	WIPO	H01L	21/00	X	
	D20	WO01/84382	08.11.01	WIPO	G06F	17/50	X	
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Other Documents

Examiner Initial	No.	Author, Title, Date, Place (e.g. Journal) of Publication
GS	F1	TDB, "Phase-Sensitive Overlay Analysis Spectrometry," IBM Technical Disclosure Bulletin, March 1990. pp 170-174 www.delphion.com
GS	F2	TDB, "Interferometric Method of Checking the Overlay Accuracy in Photolitho Graphic Exposure Processes." IBM Technical Disclosure Bulletin, March 1990. pp 214-217. www.delphion.com
	F3	TDB, "Mask Overlay Determination" IBM Technical Disclosure Bulletin, December 1978, pp 272-2773. www.delphion.com
GS	F4	TDB, "Interferometric Measurement System for Overlay Measurement in Lithographic Processes", February 1994, pp535-536
GS	F5	Sang-Man Bae, et al., "Performance of New Overlay Measurement Mark," 424/SPIE Vol. 2725
GS	F6	V.I. Arkipov, "Kinetics of the Diffraction Efficiency of Light-Induced Dynamic Gratings in Layers of Disordered Semiconductors", Moscow Engineering-Physics Institute Submitted February 14, 1992; Quantum Electron November 1993. 1994 American Institute of Physics
GS	F7	Joseph C. Pellegrini, et al., "Super Sparse Overlay Sampling Plans: An Evaluation of Methods and Algorithms for Optimizing Overlay Quality Control and Metrology Tool Throughput", SPIE Vol. 3677-0277-786X
GS	F8	V.C. Jaiprakash and C. J. Gould, "Comparison Optical, SEM, and AFM Overlay Measurement, SPIE Vol. 3677-0277-786X
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GS	G1	Ya V. Fattakhov, "Formation of Periodic Diffraction Structures at Semiconductor Surfaces for Studying the Dynamics of Photoinduced Phase Transitions", 0030-400X/00/8901-0136
GS	G2	D.G. Papazoglou, et al., "Photorefractive Optical Properties of Volume Phase Gratings Induced in Sillenite Crystals, When the Grating Vector Lies on the 111 plane, "Appl. Phys. B 71, 841-848 (2000)
GS	G3	Kenneth W. Tobin, et al. "Automatic Classification of Spatial Signatures on Semiconductor Wafermaps," SEMATECH, Austin, Texas. SPIE Vol. 3050
GS	G4	Bharath Rangarajan, et al., "Optimal Sampling Strategies for sub-100 nm Overlay, APD Lithography, Advanced Micro Devices Inc., Sunnyvale, CA, Department of Chemical Engineering, Michigan State University, East Lansing, MI, SPIE Vol. 3332
GS	G5	R.C. Herbert, "Width and Overlay Narrow Kerf Test Site", IBM TDB, 04/1978, Vol. 20 No. 11A. IBM Corp.
	G6	Young Chang Kim, et al. "Automatic In Situ Focus Monitor Using Line Shortening Effect", Journal. Proceedings of the SPIE, vol. 3677, pt.1-2, p. 184-93
	G7	Enrique R. Sherman, "Characterization and Monitoring of Variable NA and Variable Coherence Capable Photo Steppers Utilizing the Phase Shift Focus Monitor Reticle," Journal. Proceedings of the SPIE, vol. 2439, p. 61-9.
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	H1	Jorg Bischoff, et al. "Modeling of Optical Scatterometry with Finite-Number-of-Periods Grating", Journal: Proceedings of the SPIE, vol. 3743, p. 41-8.
	H2	T. Baumbach, et al. "Grazing Incidence Diffraction by Laterally Patterned Semiconductor Nanostructures", Journal: Journal of Physics, vol. 32, no. 6, p. 726-40.
	H3	Nono Uchida, et al. "A Mask-to-Wafer Alignment and Gap Setting Method for X-Ray Lithography Using Gratings", Journal: Journal of Vacuum Science & Technology B, vol. 9, no. 6, p. 3202-6.
	H4	Hideki INA, et al. "Alignment Mark Optimization to Reduce Tool and Wafer-induced Shift for XTRA-1000", Japanese Journal of Applied Physics, vol. 38, no. 12B, p. 7065-70.
GS	H5	Auzino, L., "A New Technique for Multiple Overlay Check", Abstract. First Search: Detailed Record, Terms & Conditions 1992-2003. Copyright, 1998, IEE.
GS	H6	H.J. Levinson, et al., "Minimization of Total Overlay Errors on Product Wafers Using an Advanced Optimization Scheme" Abstract. First Search: Detailed Record. Terms & Conditions 1992-2003. Copyright 1998, IEEE.
GS	H7	K. Kodate, et al. "Towards the Optimal Design of Binary Optical Elements with Different Phase Levels Using a Method of Phase Mismatch Correction," Abstract. FirstSearch: Detailed Record. Copyright 2001, IEE.
GS	H8	Klienknecht, H.P., "Diffraction and Interference Optics for Monitoring Fine Dimensions in Device Manufacture", Copyright 1984 The Institute of Physics. Inst. Phys. Conf. Ser. No. 69. Paper presented at ESSDERC/SSSDT 1983, Canterbury 13-16 Sept. 1983.
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